

Identities satisfied by involution semigroups.

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A unary semigroup $(S, *)$ that satisfies the identities $(x^*)^* \approx x$ and $(xy)^* \approx y^*x^*$ is called an *involution semigroup*. An involution semigroup $(S, *)$ and its *reduct* S can possess very different equational properties; most notably, they need not be simultaneously finitely based. In this talk, I will present a very simple assumption under which an involution semigroup is non-finitely based whenever its reduct is non-finitely based. This result settles the finite basis problem for a number of involution semigroups that was previously open, and it also converts a few sufficient conditions for semigroups to be non-finitely based into sufficient conditions that apply to involution semigroups.